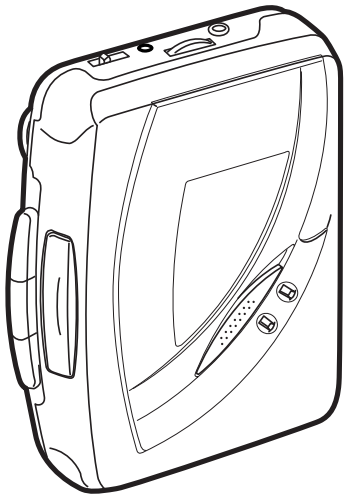
aiwa SERVICE

HS-TA213 YL,YZ



SERVICE MANUAL

STEREO RADIO
CASSETTE PLAYER

BASIC TAPE MECHANISM : 4ZM-2 P19NC

• This Service Manual is the “Revision Publishing” and replaces “Simple Manual”, (S/M Code No. 09-00A-438-5T1).

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S/M Code No. 09-00B-438-5R1

REVISION DATA

SPECIFICATIONS

Frequency range:	FM: 87.5 - 108 MHz YL: AM: 530 - 1710 kHz YZ: AM: 530 - 1605 kHz
Maximum output:	YL: 15 mW + 15 mW (EIAJ/32 ohms) YZ: 4 mW + 4 mW (EIAJ/16 ohms)
Power source:	DC 3V using two R6 (size AA) batteries
Maximum dimensions:	91.5 (W) x 116.5 (H) x 36.0 (D) mm ($3\ ^5/_8$ x $4\ ^5/_8$ x $1\ ^7/_{16}$ in.) (excluding projecting parts and control)
Weight:	Approx.109 g (3.8 oz) (excluding batteries)

• Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

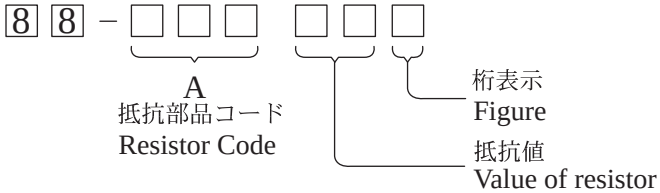
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-HRL-901-010		IB,YZ(EGFSI)-C<YZ>
1	8B-HRL-902-010		IB,YZ(EDPOHCZ)-C<YZ>
1	8B-HRL-905-010		IB,YL(ESP)-C<YL>
2	8B-HRL-046-010		CLIP,BELT J034N
3	87-B30-080-210		HEADPHONE,HP-M009(F)<[S]YL1>
3	87-B30-430-010		HEADPHONE,HP-M029(R)<[R]YL,[R]YZ>
3	87-B30-431-010		HEADPHONE,HP-M029(BL)<[L]YL,[L]YZ>
3	87-B30-432-010		HEADPHONE,HP-M029(G)<[GL]YL>
3	87-B30-434-010		HEADPHONE,HP-M029(DG)<[S]YL,[S]YZ>

ELECTRICAL MAIN PARTS LIST

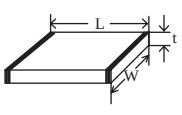
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-684-040		C-IC,TA2145AF
	87-A20-851-040		C-IC,TA2111F
TRANSISTOR			
	87-A30-159-080		C-TR,KTA1298Y
	87-A30-062-080		C-TR,KRC104S
	87-A30-490-080		C-TR,KRC107S
DIODE			
	87-A40-965-040		C-DIODE,MMBD-2838LT1
MAIN C.B			
	87-A91-577-010		FLTR,KIT SN
BPF101	87-A91-680-010		FLTR,GFMB5-C3
C1	87-012-277-080		C-CAP, U 1800P-50 B
C2	87-012-277-080		C-CAP, U 1800P-50 B
C3	87-012-274-080		CHIP CAP,U 1000P-50B
C4	87-012-274-080		CHIP CAP,U 1000P-50B
C5	87-010-499-040		CAP,E 22-6.3 GAS
C6	87-015-674-040		CAP E 22-6.3M SRA
C7	87-012-285-080		C-CAP,U 8200P-50 B
C8	87-012-285-080		C-CAP,U 8200P-50 B
C11	87-A11-056-080		C-CAP,U 1-10 Z F
C12	87-A11-056-080		C-CAP,U 1-10 Z F
C13	87-012-277-080		C-CAP, U 1800P-50 B
C14	87-012-277-080		C-CAP, U 1800P-50 B
C15	87-015-676-040		E/CAP 47/6.3
C16	87-010-831-080		C-CAP,U,0.1-16F
C17	87-010-831-080		C-CAP,U,0.1-16F
C20	87-010-831-080		C-CAP,U,0.1-16F
C21	87-A10-489-040		CAP,E 220-4 7L SR
C22	87-A10-489-040		CAP,E 220-4 7L SR
C23	87-A10-489-040		CAP,E 220-4 7L SR
C24	87-A10-706-080		C-CAP,U 0.33-16 Z F
C25	87-A10-706-080		C-CAP,U 0.33-16 Z F
C51	87-A11-056-080		C-CAP,U 1-10 Z F
C101	87-012-162-080		C-CAP,U 1P-50 CH<YL>
C101	87-012-165-080		C-CAP,U 3P-50 CH<YZ>
C102	87-012-178-080		C-CAP,U 18P-50 CH<YL>
C102	87-012-179-080		C-CAP,U 20P-50 CH<YZ>
C103	87-012-182-080		C-CAP,U 27P-50 CH<YL>
C103	87-012-183-080		C-CAP,U 30P-50CH<YZ>
C104	87-012-164-080		C-CAP,U 2P-50 CH<YL>
C104	87-012-166-080		C-CAP,U 4P-50 CH<YZ>
C105	87-012-286-080		CAP, U 0.01-25
C106	87-A10-463-080		C-CAP,U 0.47-10 Z F
C107	87-A11-056-080		C-CAP,U 1-10 Z F
C108	87-012-274-080		CHIP CAP,U 1000P-50B
C109	87-A11-056-080		C-CAP,U 1-10 Z F
C110	87-010-831-080		C-CAP,U 0.1-16 Z F
C111	87-012-286-080		CAP, U 0.01-25
C112	87-012-286-080		CAP, U 0.01-25
C113	87-012-286-080		CAP, U 0.01-25
C114	87-A11-070-080		C-CAP,U 0.033-16 K B
C115	87-A11-070-080		C-CAP,U 0.033-16 K B
C116	87-015-688-040		E/CAP 4.7-35 M 7L SRA
C117	87-010-831-080		C-CAP,U,0.1-16F
C118	87-012-274-080		CHIP CAP,U 1000P-50B
C119	87-010-503-040		CAP,E 220-4 GAS
C120	87-012-178-080		C-CAP,U 18P-50 CH
C201	87-012-274-080		C-CAP,U 1000P-50 K B
C211	87-A11-551-080		C-CAP,S 1000P-50 K B
C401	87-A10-025-080		C-CAP,U 0.22-16 Z F
C402	87-A10-025-080		C-CAP,U 0.22-16 Z F
C403	87-010-831-080		C-CAP,U 0.1-16 Z F
CF101	87-A91-087-010		FLTR,PFS 450A6 B
J1	85-HRL-623-010		JACK,3.5 ST BLK
L1	87-A50-538-010		COIL,1UH RF CHOKE
L2	87-005-849-080		COIL,10UH(CECS)
L101	8B-HRL-607-010		BAR-ANT,MW(KTR)
L102	8B-HRL-606-010		COIL,FM RF
L103	8B-HRL-605-010		COIL,FM OSC
L104	87-A50-534-010		COIL,270UH AMOSC
L105	87-A90-663-010		IFT,MW 5L H6.4
R51	87-A00-530-080		C-RES,S 180-1/10W F
SFR51	87-024-197-010		SEMI-FIXED RESISTOR,1K
SW1	87-A90-133-110		SW,LEAF LSA1120JAU
SW2	87-A90-216-010		SW SL 2-2-3 SK23D
PVC101	87-A92-009-010		TUN-CAP,20P-160P 16*16 444JF4C
VR1	87-A90-981-010		VR,RTRY 20KBX1
FRONT C.B			
SW401	87-A92-020-010		C-SW,SL 1-1-2 LONG(NC)

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

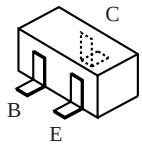
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



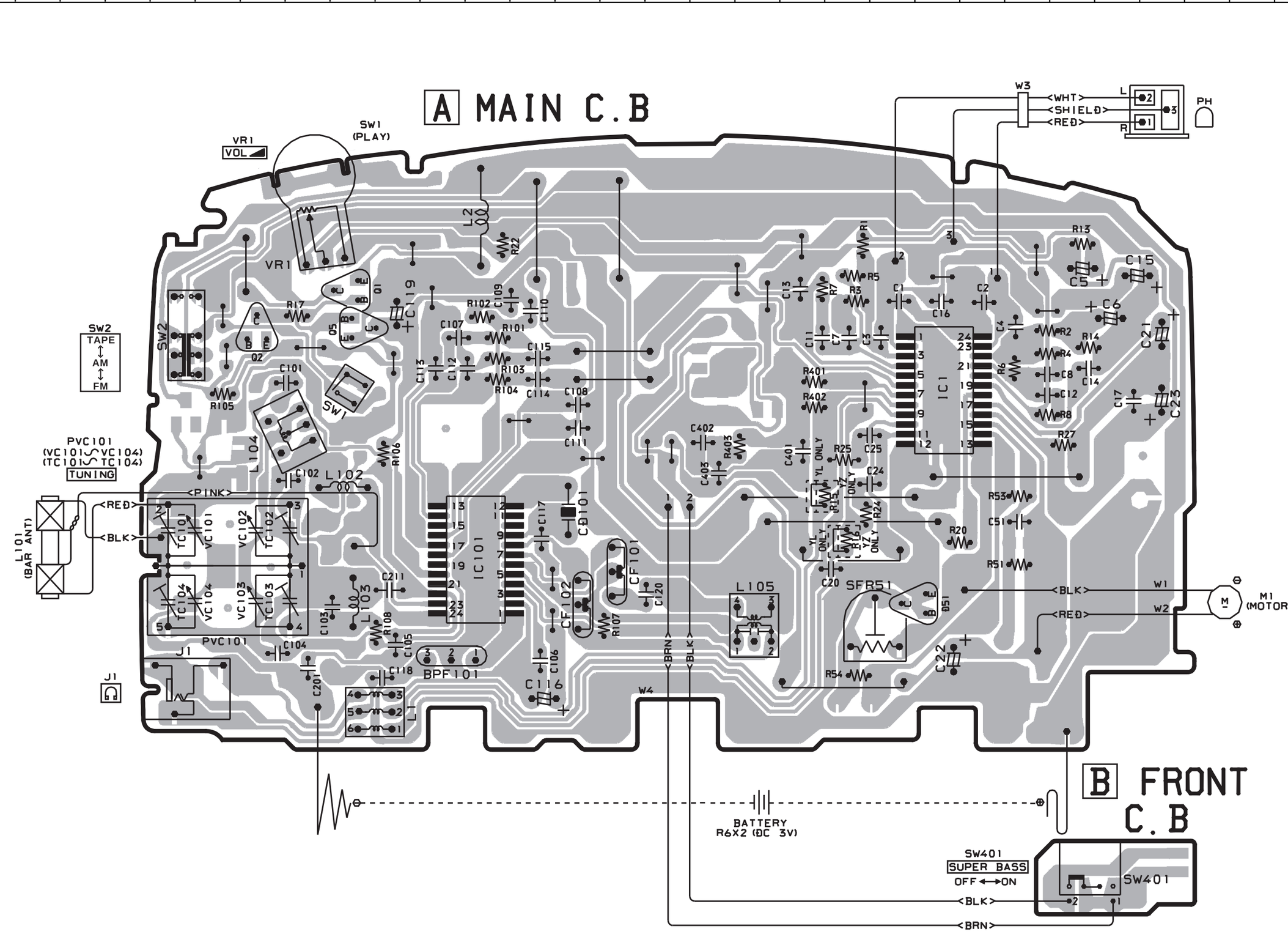
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

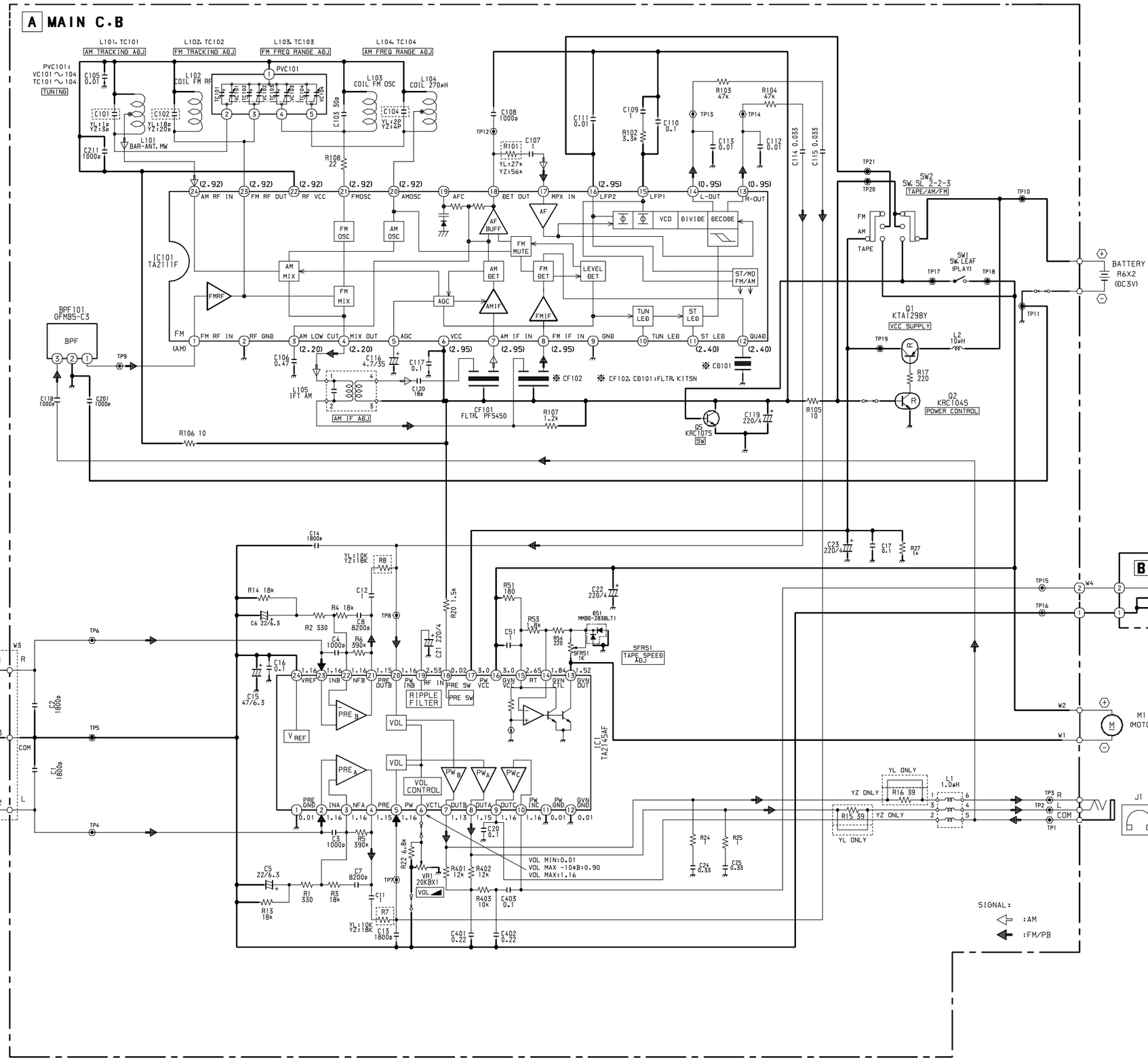
TRANSISTOR ILLUSTRATION



KRC104S
KRC107S
KTA1298Y


A MAIN C.B
B FRONT C.B
VR1
VOL
SW1
(PLAY)
SW2
TAPE
AM
FM
PVC101
(VC101~VC104)
(TC101~TC104)
TUNING
L101
(BAR ANT)
PVC101
IC101
BPF101
L102
L103
L104
L105
CF101
CF102
CD101
SFR51
J1
W3
WHT
SHIELD
RED
L
R
PH
W1
W2
M1
(MOTOR)
BLK
BRN
PINK
BATTERY
R6X2 (DC 3V)
SW401
SUPER BASS
OFF ↔ ON
IC1
YL ONLY
YZ ONLY

SCHEMATIC DIAGRAM



ADJUSTMENT

<TUNER SECTION>

1. AM IF Adjustment
   L105 ..... 600kHz

2. AM Frequency range Adjustment
   L104 ..... 517kHz ± 5kHz<YL>
   L104 ..... 515kHz ± 5kHz<YZ>
   TC104 ..... 1775kHz ± 10kHz<YL>
   TC104 ..... 1670kHz ± 10kHz<YZ>

3. AM Tracking Adjustment
   L101 ..... 600kHz
   TC101 ..... 1400kHz

4. FM Frequency range Adjustment
   L103 ..... 87.0MHz ± 0.2MHz<YL>
   L103 ..... 87.4MHz ± 0.1MHz<YZ>
   TC103 ..... 109.0MHz ± 0.1MHz<YL>
   TC103 ..... 108.3MHz ± 0.1MHz<YZ>

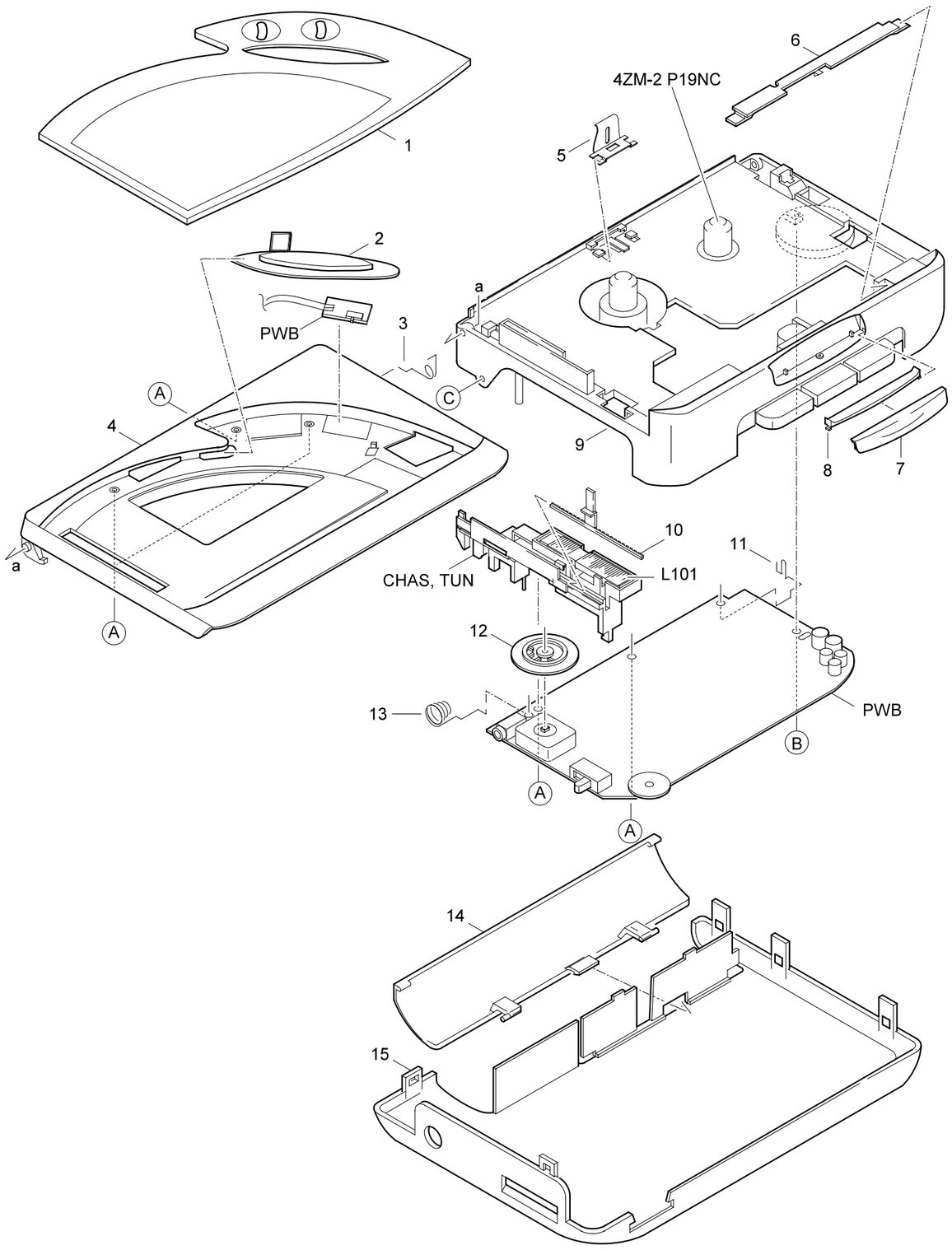
5. FM Tracking Adjustment
   L102 ..... 88.0MHz
   TC102 ..... 108.0MHz

<TAPE PLAYER SECTION>

6. Tape Speed Adjustment
   Settings : • Test tape : TTA–100 (Tape centre)
   • Test point : PHONES JACK (J1)
   • Volume : NON-CLIP (MAX-10dB DOWN)
   • Super Bass : OFF
   • Function : TAPE
   • Adjustment location : SFR51
   Method : Play back the test tape and adjust SFR51 so that the frequency becomes 3000Hz ± 10Hz (FWD). Then confirm WOW is less than 0.50%.

7. Head Azimuth Adjustment
   Settings : • Test tape : TTA–330/TTA–420 (Tape centre)
   • Test point : PHONES JACK (J1)
   • Volume : NON-CLIP (MAX-10dB DOWN)
   • Super Bass : OFF
   • Function : TAPE
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back the 8kHz signal of the test tape and adjust the screw so that the output becomes maximum.

MECHANICAL EXPLODED VIEW 1 / 1



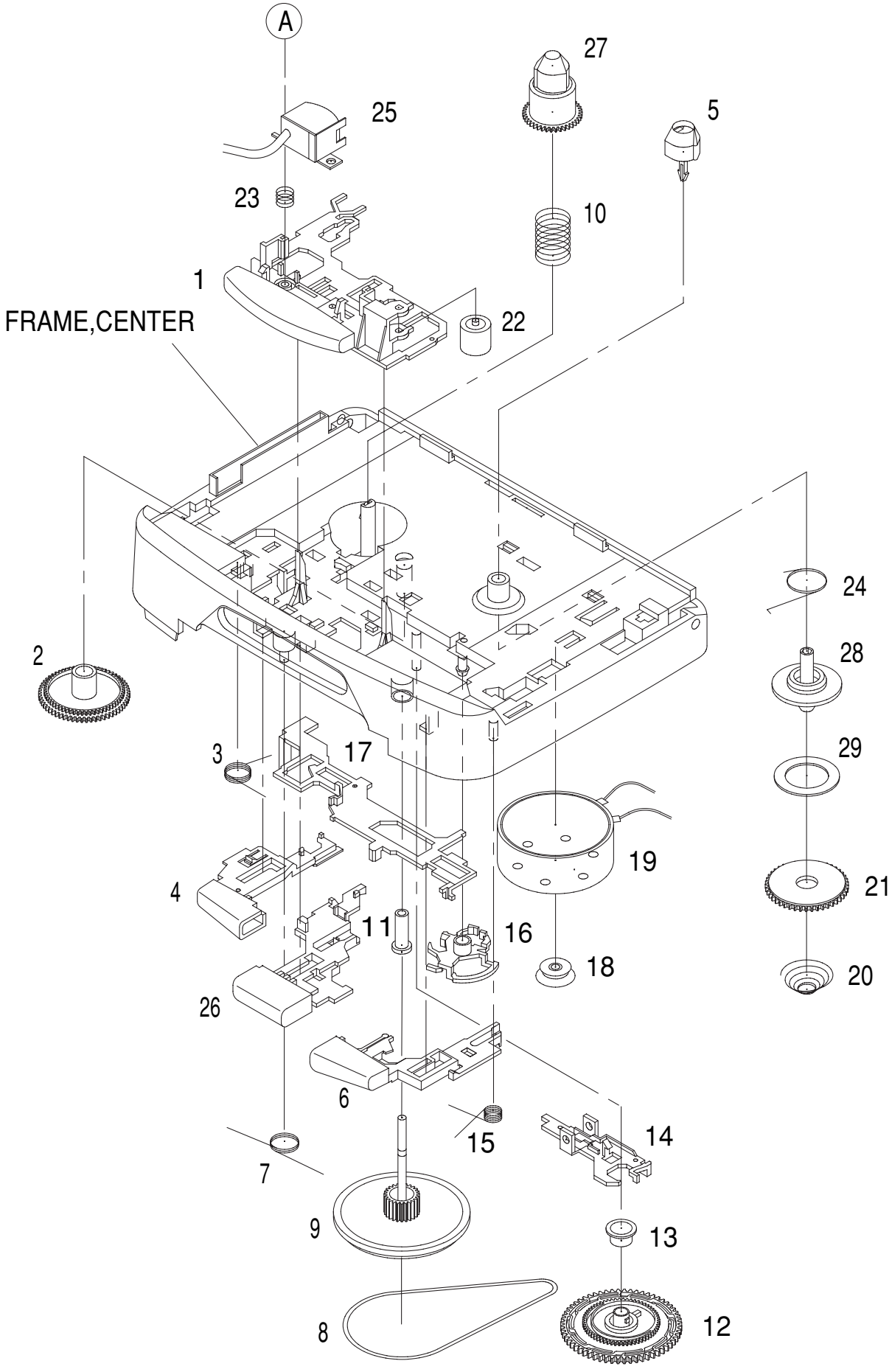
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-HRL-005-010		PANEL,SBASS<[S]YL>
1	8B-HRL-038-010		PANEL,SBASS BLU<[L]YL>
1	8B-HRL-016-010		PANEL,SBASS BLU YJ<[L]YZ>
1	8B-HRL-041-010		PANEL,SBASS LGRE<[GL]YL>
1	8B-HRL-040-010		PANEL,SBASS RED<[R]YL>
1	8B-HRL-018-010		PANEL,SBASS RED YJ<[R]YZ>
1	8B-HRL-011-010		PANEL,SBASS YJ<[S]YZ>
2	8B-HRL-006-010		KNOB,SL SBASS
3	86-HRM-205-010		SPR-T,CLICK
4	8B-HRL-001-010		LID,CASS<[S]YL>
4	8B-HRL-034-010		LID,CASS BLU<[L]YL>
4	8B-HRL-012-010		LID,CASS BLU YZ<[L]YZ>
4	8B-HRL-037-010		LID,CASS LGRE<[GL]YL>
4	8B-HRL-036-010		LID,CASS RED<[R]YL>
4	8B-HRL-014-010		LID,CASS RED YZ<[R]YZ>
4	8B-HRL-010-010		LID,CASS YZ<[S]YZ>
5	8B-HRL-208-010		SPR-P,CASS
6	8B-HRL-204-010		PLATE,HEAD
7	8B-HRL-007-010		BTN,PLAY
8	8B-HRL-203-010		PLATE,BTN
9	8B-HRL-002-010		FRAME,CENTER
10	86-HRM-009-210		POINTER,TUN
11	8B-HRM-203-010		BAT-CONTACT,(+)
12	86-HRM-006-010		KNOB,RTRY TUN
13	8Z-HRM-205-010		BAT,CONTACT(-)
14	8B-HRL-004-010		LID,BATT<[S]YL,[S]YZ>
14	8B-HRL-030-010		LID,BATT BLU<[L]YL,[L]YZ>
14	8B-HRL-033-010		LID,BATT LGRE<[GL]YL>
14	8B-HRL-032-010		LID,BATT RED<[R]YL,[R]YZ>
15	8B-HRL-008-010		CABI,REAR<[S]YL>
15	8B-HRL-042-010		CABI,REAR BLU<[L]YL>
15	8B-HRL-026-010		CABI,REAR BLU YZ<[L]YZ>
15	8B-HRL-045-010		CABI,REAR LGRE<[GL]YL>
15	8B-HRL-044-010		CABI,REAR RED<[R]YL>
15	8B-HRL-028-010		CABI,REAR RED YZ<[R]YZ>
15	8B-HRL-009-010		CABI,REAR YZ<[S]YZ>
A	87-067-732-010		TAPPING SCREW, VT1.4-3
B	87-B10-044-010		V+1.7-6.5
C	87-067-815-110		VT+1.4-3(HL)

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green		

TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZM2-072-010		LEVER,PLAY DENT
2	84-ZM2-211-110		GEAR,CONNECT
3	84-ZM2-222-110		SPR-T,PLAY
4	84-ZM2-075-010		LEVER,STOP DENT
5	84-ZM2-216-210		REEL TABLE,R
6	84-ZM2-073-010		LEVER,FF DENT
7	84-ZM2-223-110		SPR-T,REW STOP
8	84-ZM2-232-310		BELT,MAIN
9	09-001-421-010		FLY-WHL,P ASSY
10	84-ZM2-228-310		SPR-C,BT
11	84-ZM2-220-110		BRG,P
12	84-ZM2-210-210		GEAR,AUTO
13	84-ZM2-218-110		CAP,GEAR AUTO
14	84-ZM2-208-510		LEVER,SHIFT
15	84-ZM2-224-110		SPR-T,FF LOCK
16	84-ZM2-207-310		LEVER,AUTO
17	84-ZM2-206-410		LEVER,LOCK
18	84-ZM2-219-010		PULLEY,MOTOR
19	87-A91-379-010		MOT,BCY3B-13
20	84-ZM2-226-510		SPR-C,CLUTCH
21	84-ZM2-212-010		GEAR,CLUTCH
22	84-ZM2-233-210		ROLLER ASSY,PINCH
23	84-ZM2-227-310		SPR-C,AZIMUTH
24	84-ZM2-225-010		SPR-T,AUTO FIND
25	87-A91-529-010		HEAD,TC-950
26	84-ZM2-074-010		LEVER,REW DENT
27	84-ZM2-215-110		REEL TABLE,L
28	84-ZM2-217-210		SHAFT,REEL
29	84-ZM2-231-110		FELT,CLUTCH
A	84-ZM2-252-010		S-SCREW,AZI-2-6.4 C

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